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INFLUENCE OF ELECTRONIC BANKING SERVICE MANAGEMENT ON FINANCIAL PERFORMANCE OF DEPOSIT TAKING SACCOS IN NAIROBI COUNTY

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ABSTRACT

This study examined the influence of electronic banking service management on financial performance of deposit taking SACCOS in Nairobi County. The study employed a descriptive survey research design. The target population of this study was senior management staff in the deposit taking SACCOs in Nairobi County from where Yamane's sampling formula was used to get sample size; and respondents were selected using simple random sampling technique. The questionnaires were administered to senior management staff in the deposit taking SACCOs head offices using a drop and pick method. Data analysis was computed by SPSS 24. The analyzed data was presented in the form of tables and graphs. Questionnaires were used for data collection. Both descriptive and inferential statistics indicated that all of the study's independent variables (phone banking service, digitized financial communication service, electronic saving mobilization service, and online loaning service) significantly influenced financial performance of deposit taking Saccos in Nairobi County (dependent variable). The study concluded that one, effective use of secure and upgraded phone banking system can reduce financial transaction costs and enhance financial performance of deposit taking Saccos. Secondly, efficient use of cost effective digitized financial communication services by Saccos can reduce manual communications costs and boost financial performance of deposit taking Saccos. Thirdly, introduction and effective use of electronic savings mobilization services can attract huge customer savings thus positively impact on financial performance of deposit taking Saccos. The study recommended that one, deposit taking Saccos must adopt secure, upgraded and efficient phone banking platforms to enable them serve many customers with reduced banking costs. Secondly, deposit taking Saccos should embrace secure digitized financial communication service using bulk messaging, controlled social media platforms to enable them attract and respond to many customers concerns. Thirdly, deposit taking Saccos should roll out secure and upgraded online loaning services for easier access of loan products by its customers, while checking on loan default ratios that can arise from fraudulent online loan applicants. A similar study can be done using longitudinal design for a span of five years to assess the efficacy of electronic banking services in deposit taking Saccos.

Key Words: *Phone Banking Service, Digitized Financial Communication Service, Electronic Saving Mobilization Service, Online Loaning Service*

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INTRODUCTION

Saccos contribute to economic growth and development through effective financial performance. These institutions have not been performing well especially in developing countries due to lack or inappropriate adoption of innovative customer management thus the need for effective and efficient electronic banking service management (Mwania, 2017).

Globally, most competing financial institutions use customer service as an integral part of a competing financial institutions' customer value proposition. This is because customers have memories. They will remember you, whether you remember them or not, thus, customer trust can be destroyed instantly by a major service problem, or it can be undermined one day at a time, with a thousand small demonstrations of negligence (Peppers & Rogers, 2014).

In reference to Saccos, the capital of the institution guarantees the changelessness and development of the Savings and Credit Cooperative Societies (SACCOs) even in turbulent monetary circumstances, thus this causes the Savings and Credit Cooperative Societies to develop innovative customer relationship management services to attract and retain a strong customer base (Gijselinckx & Devetere, 2014).

The success of SACCOS incredibly lies on the deposits assembly to prepare more deposits; monetary establishments offer a scope of funds items that are custom-made to their specific customer base. They offer the greatest assortment of specific reserve funds items, so their clients have a decision between promptly available, fluid items, or semi-fluid records or time deposits with as needs be higher loan fees; thus Saccos began rolling out electronic customer service management services to attract and retain a huge customer base (Sylvia, 2013).

Largely, there has been gradual but stable growth in the number and membership of deposit taking SACCOs in Kenya. From a membership of 992,844 in 2006, membership has grown to over 2,644,205 and is expected to continue growing as more and more Kenyans join SACCOs. There has been growth in the number of SACCOs in the country since 2006. However, the growth has not been rapid as only few new Saccos have been registered and are operational since 2006. The growth in membership can therefore be attributed to aggressive efforts by existing Saccos to recruit new members by use of various strategies (Atsiaya & Ngacho, 2014).

Further, SACCOs in Kenya are crucial in an effort to ensuring financial inclusion and deepening and subsequently, the achievement of Kenya's strategic national development plan. As part of Kenya's macro-economic goals, savings rates were anticipated to rise to 30% of GDP through improved financial deepening, creating credit referencing and streamlining SACCOs with a view to raising institutional capital. The Sacco sector, though not recognized as an autonomous sector, will assist the mobilization of investment funds through effective innovative customer relationship management mechanisms.

In terms of customer service innovations, Muteke (2015) did a study the relationship between customer service innovation and financial performance among savings and credit co-operative societies in Mombasa county Kenya. The study established that customer service and financial innovation affect the financial performance of Sacco's to a great extent. Products innovation contributed also to great extent to financial performance of Sacco. The study revealed that new deposit accounts, credit card, debit card, personal unsecured loan, mobile money transfer services and product tailored to favor certain group also help in realizing high market share in the sector. The study further established that process innovation adopted by the sales affected the financial performance of the Sacco to a great extent. The study established that most Sacco's created value through office automation, use of computer, electronic money transfer, internet transaction, online loan services all geared towards attracting techno savvy

customers and at the same time trying to win some customers who are laggards in technology adoption.

Statement of the problem

Electronic banking service management has come up a cost effective innovative measure meant to attract and retain a huge customer base in deposit taking Saccos. Further, electronic banking service management is a much hyped cost reduction measure meant to boost financial performance of deposit taking Saccos (Dobbler, 2013).

However, there are scanty empirical studies on the use of electronic banking service management to enhance financial performance of deposit taking Saccos. For instance, Akintola (2016) studied on electronic savings system in Nigeria's financial institutions did not consider how this electronic saving system could favor customers in their banking transactions; Tiwari (2016) study on electronic service management in financial institutions found that electronic communication plays an important role in e-commerce because it closes the e-commerce loop.

Further, Hintero (2016) while study on electronic financial communication and financial performance of financial lending institutions in Indonesia suggested adoption of electronic communication as cost reduction measure; while Andrea (2014) asserted that financial lending institutions developed the use of computers, computerized data processing mirrored processes towards the automation of customer ledgers, automating high volume transaction, electronic loan processing and routine customer service procedures to minimize operational costs.

SASRA (2017) reports also indicated that electronic financial innovation in financial lending institutions caused revolutions in the banking industry and deposit taking Saccos had no option but to adopt them; however, the effect of these electronic banking services on Sacco performance has not been really empirically evaluated.

Therefore, lack of adequate empirical studies on the link between electronic banking service and financial performance motivated this study to examine the influence of electronic customer service management variables such as phone banking, digitized financial communication, electronic savings mobilization and online loaning services on financial performance of deposit taking Saccos in Nairobi County, Kenya.

Objectives of the Study

The general objective of the study was to examine influence of electronic banking service management on financial performance of deposit taking Saccos Nairobi County. The specific objectives were;

- To evaluate influence of phone banking service on financial performance of deposit taking Saccos in Nairobi County
- To examine influence of digitized financial communication service on financial performance of deposit taking Saccos in Nairobi County
- To determine influence of electronic savings mobilization service on financial performance of deposit taking Saccos in Nairobi County
- To assess influence of online loaning service on financial performance of deposit taking Saccos in Nairobi County

The study was guided by the following research hypotheses;

- **H_{01}:** Phone banking service does not significantly influence financial performance of deposit taking Saccos in Nairobi County.
- **H_{02}:** Digitized financial communication service does not significantly influence financial performance of deposit taking Saccos in Nairobi County.
- **H_{03}:** Electronic savings mobilization service does not significantly influence financial performance of deposit taking Saccos in Nairobi County.
- **H_{04}:** Online loaning service does not significantly influence financial performance of deposit taking Saccos in Nairobi County.

LITERATURE REVIEW

Resource Based View (RBV) Theory

This was popularized by Hamel and Prahalad (1994) in their book "Competing for the Future", where resources are defined as stocks of knowledge, physical assets, human capital and other tangible and intangible innovations that a business owns or controls which enable a firm to perform efficiently and/or effectively.

The RBV theory thus recognizes that resources may not create rents in isolation; rather, bundles of resources may together create a configuration that conveys competitive advantage and enhances a firm's performance (Barney, 2007).

Brown (2007) states that the RBV of competitive advantage is based on two main assumptions: Resource diversity and resource immobility; and in as far as resource utilization can enhance a firm's performance. An action passes the resource diversity test if it is one which competing firms and partners are unable to imitate. For example, legal protection in the case of trademarks or patents, supplier or distributor contracts in the case of manufacturing firms and R&D teams in the case of scientific or technology driven firms. Resource immobility refers to a resource which is difficult to obtain by competitors because the cost of developing, acquiring or using that resource is too high. This includes innovative services, and organizational learning among others.

Resource-Based View (RBV) of the firm argues that differential firm performance is fundamentally due to firm heterogeneity rather than industry structure (Barney, 2007). Firms that are able to accumulate resources and capabilities that are rare, valuable, non-substitutable, and difficult to imitate will achieve a competitive advantage over competitors. RBV theory views the firm as the primary unit of analysis. Although these two perspectives have contributed greatly to our understanding of how firms achieve above-normal returns, they overlook the important fact that the (dis)advantages of an individual firm are often linked to the (dis)advantages of the network of relationships in which the firm is embedded. Proponents of the RBV have emphasized that competitive advantage results from those resources and capabilities that are owned and controlled by a single firm.

Transaction Cost Theory

This theory by Williamson (1993) investigates if a transaction can be undertaken at a lower cost via the market or within the hierarchy of the firm and consist of the negotiating, monitoring, and enforcements cost which arise when a transaction between two or more parties takes place.

The presence of transaction costs causes external motivations for companies to diversify and theoretically, in environments where there are no transaction costs, diversification would be a non-value maximization way since the resources could be purchased via the market. However, the presence of inefficient markets causes transaction costs, which forces integration (Geyskens, Steenkamp, & Kumar, 2006).

An unrelated diversification benefits when it improves the internal capital market of the acquired business. Discrepancies in bureaucratic costs to coordinate and control the separate divisions efficiently are the main cause of the transaction cost differences. More time, effort, and resources have to be allocated in performance monitoring and evaluation activities within the related diversification (Geyskens *et al*, 2006).

Thus, when interdependency increases, bureaucratic costs increase as well. Bureaucratic costs will be the lowest for unrelated diversification. The organizational structure of unrelated diversified firms is often simple and the different divisions function as self-contained units. As a result, this structure of pooled interdependence allows that performance control can take place based on financial criteria. Consequently, bureaucratic costs of monitoring and controlling the divisions are low (Geyskens *et al*, 2006).

Therefore, transaction cost theory informs this study in the sense that diversification through a supportive innovative platform minimizes bureaucratic and manual costs associated with manual financial transaction systems in Saccos, through electronic savings mobilization and online loaning services.

Innovation Diffusion theory

Rogers (1983) crafted the innovation diffusion theory which asserts that factors which influence the diffusion of an innovation include; relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the technology's outputs and its gains are clear to see). These elements are not mutually exclusive thus unable to predict either the extent or the rate of innovation diffusion.

More so, Dillon and Morris (1996) expanded the array of innovation characteristics; of which three of the seven innovation characteristics are directly borrowed from Rogers: relative advantage, compatibility, and trialability. The other characteristic, ease of use, is a close relative to Rogers' (1983) complexity. It is worth noting that both relative advantage and ease of use are subjective characteristics since they can be viewed differently depending on an individual's perceptions.

Therefore the innovation diffusion theory is relevant to this study in the sense that since there are so many competitive customer service innovations that are being rolled meant to attract and retain many customers, deposit taking Saccos strive to adopt innovative customer service products which can minimize costs related to manual customer management systems, thus boost financial performance.

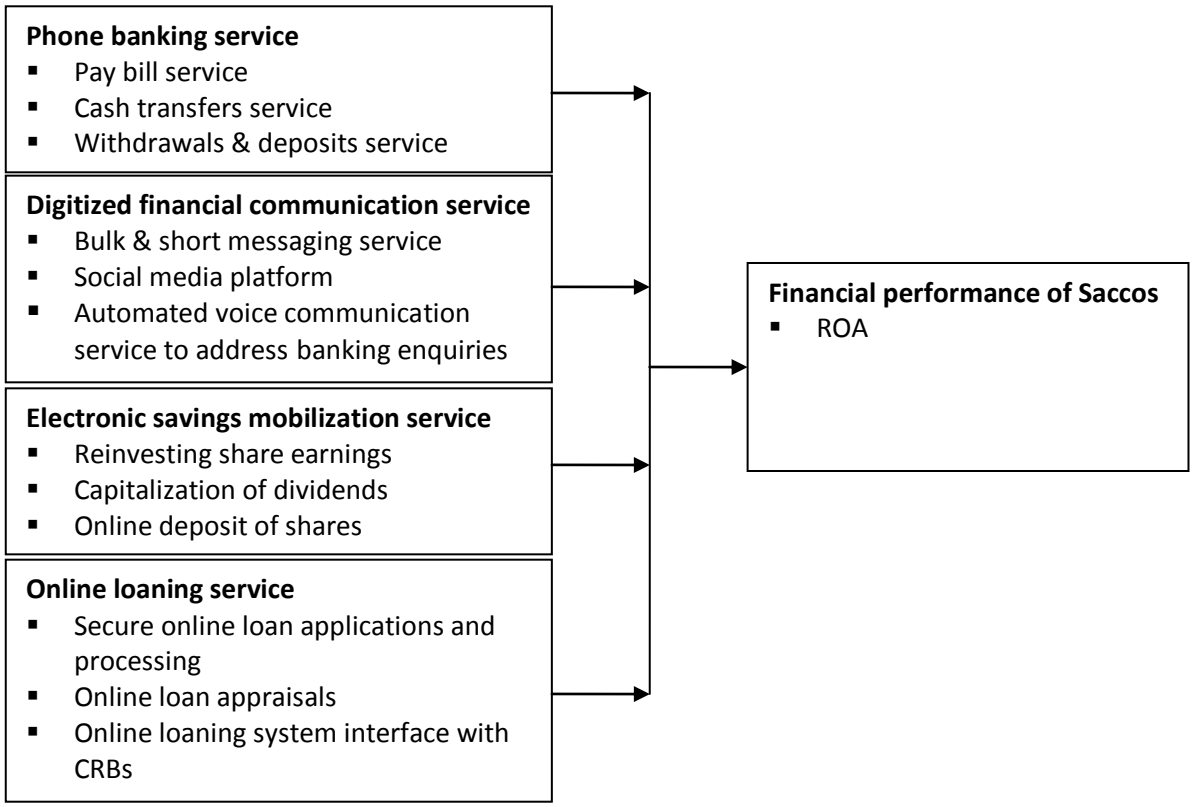

Figure 1: Conceptual framework

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Empirical Review

Mohamed (2013), studied on how phone banking influenced financial performance of commercial banks in India and found that financial performance of commercial banks improved after the introduction of mobile banking; but the study was criticized for having a relatively small sample size.

Omondi (2015) researched on effect of mobile banking on the financial performance of commercial banks listed at the NSE in Kenya using financial ratios found that Commercial Banks underperformed after the adoption of mobile banking, implying that adoption of mobile phone banking negatively affected performance of the sampled commercial banks.

Dobbler (2013) study on mobile phone banking found that customers view the impact of factors such as e-exercise insurance and carriage on the costs of goods being purchased, discount points and conditions applied are also clear. Consequently, an e-payment system enables buying to make better decisions leading to increased profitability to financial institutions like even deposit taking Saccos that have pay bill service.

Akintola (2016) study on electronic savings system in Nigeria's financial institutions found that based on the ways in which electronic savings could minimize fraud and mitigate risk to the banking system only, the system did not consider how this electronic saving system could favor customers in their banking transactions, specifically in Automated Teller Machines. This is so because the machine is one of the current electronic saving systems which may bring about convenient savings by customers who may find it secure to use it.

Fulgence (2014) study indicated that the customer demographics of electronic savings continue to change whereby while some customers are early adopters of the new banking technology, other techno phobia customers still rely on traditional methods to conduct their banking business, and some other customers prefer person to person contact; thus the descriptive survey study did not link electronic saving and financial performance, a gap that will be filled by this study.

Sandale (2016) on electronic savings through reinvestment of earnings in financial institutions in India found that the emergence of electronic savings brought big changes in financial services delivery and led to more benefits to customers in terms of ease and cost of transactions. The study concluded that electronic savings changes enable financial institutions to attract investments that boost profitability, efficiency and continued growth; and also act as a competitive tool for the financial institutions to attract and maintain customers. However, the study did not show any significant relationship between electronic saving mobilization and financial performance, a gap that will be addressed in this study.

Tiwari (2016) study on electronic service management in financial institutions found that electronic communication plays an important role in e-commerce because it closes the e-commerce loop. However, in developing countries, the underdeveloped electronic communication methods are a serious impediment to the growth of e-commerce. In these countries, entrepreneurs and some customers with techno phobia woes fear digitized communication services due to security concerns especially where insecure financial transactions have been reported.

Hintero (2016) while study on electronic communication and financial performance of financial lending institutions in Indonesia found that the convergence of interactive communications, computing and content coupled with customer demand for instant access to information enabled customer's access and monitor their financial transactions and any urgent communication with their financial service provider. However, the study did not show any significant relationship between electronic communication and financial performance, a gap that will be addressed by this study.

Kumar (2012) also argued that in order to meet or achieve the requirements of the quality which meets the expectations of customers and in order to protect the interests of financial lending institutions in terms of optimum cost for the desired quality, every financial lending institution should develop and implement an online customer management system tailored to suit its need and adequately address customer needs and preferences.

Mathuva (2016) study on FOSA products in Saccos in Kenya found that while access to loans is a practical necessity in today's economic needs of SACCO members, it was a sad reality that many people do not realize the importance of credit until their access becomes limited and level of income of the Savings and Credit Cooperative Societies in Kenya depends heavily on the interests on loans given to members. The study recommended that though FOSA products contribute to financial performance of Saccos by providing diversified loan products, Saccos must introduce online loaning services so as to improve loan portfolio with a possibility of increasing returns.

Miriti (2013) study noted that financial performance of Saccos is influenced by interests on loans, repayment period and default management. That is, low interest charges by cooperative society can be easily repaid by the members and introduction of online loan applications is geared towards improving affordability and but with utmost loan security meant to reduce loan default ratio.

METHODOLOGY

This study employed a descriptive survey design. The target population of this study was 252 senior management staff from the 42 licensed deposit taking SACCO societies in Nairobi County for period ending 31st December, 2018. The study employed simple random sampling technique which provided guidelines on how the sampled employees were selected. A sample size of 156 senior management staff were selected using simple random sampling technique. The study used structured (closed-ended) questionnaire to get responses from respondents to gain a better and more insightful interpretation of the results from the study. The study used quantitative methods of data analysis. Data collected was edited, cleaned, and coded and computed using SPSS version 24. The following multiple regression equation was applied in the study.

$$\gamma=\alpha + \beta_1X_1 + \beta_2X_2 +\beta_3X_3 +\beta_4X_4 +\varepsilon$$

Where γ= Dependent variable [financial performance of deposit taking Saccos in Nairobi county]

α=Constant i.e. the y intercept or the average response when predictor variables are 0

$\beta_1 \ldots \beta_4$ = Beta Coefficients

X_1= Independent variable 1 [phone banking service]

X_2= Independent variable 2 [digitized communication service]

X_3= Independent variable 3 [electronic savings mobilization service]

X_4= Independent variable 4 [online loaning service]

ε= error term

FINDINGS AND DISCUSSIONS

Descriptive statistics

The descriptive statistics presented in this section are summated responses on the statements measuring the study's independent variables (phone banking service, digitized financial communication service, electronic saving mobilization service, online loaning service) and dependent variable (financial performance) using Likert scale with values ranging from 5 to 1; that is; 5=Strongly Agree, 4=Agree, 3= Uncertain, 2=Disagree and 1= Strongly Disagree. The results were presented in the table form showing frequencies of responses as per each statement and its corresponding percentage score in brackets, means and standard deviations; plus, interpretation in prose form.

Phone banking service and Sacco' financial performance

These were summarized responses on perceived influence of Phone banking service on financial performance of deposit taking Saccos in Nairobi County. The descriptive results were presented in table 1.

Table 1: Descriptive statistics; Phone banking service

Statement	5	4	3	2	1	Mean	Std. Dev
The Sacco has rolled out a secure phone banking service to customers	11(10.7)	45(43.7)	10(9.7)	26(25.2)	11(10.7)	3.48	0.924
Saccos members are allowed to inquire their balances and mini-statements using the phone banking service	10(9.7)	44(42.7)	12(11.7)	28(27.2)	9(8.7)	3.37	0.919
Saccco members have the option of making money transfers at the comfort of their phone	13(12.6)	50(48.6)	9(8.7)	19(18.4)	12(11.7)	3.52	0.925
The Sacco customers pay bills through a pay bill platform	9(8.7)	46(44.7)	6(5.8)	28(27.2)	14(13.6)	3.47	0.927
Generally phone banking service has an effect on financial performance of the Sacco	8(7.8)	47(45.6)	8(7.8)	30(29.1)	10(9.7)	3.49	0.920
Valid list wise=103							
Grand mean =3.46							

From table 1, most respondents agreed (43.7%) and strongly agreed (10.7%) that the Sacco has rolled out a secure phone banking service to customers, while 25.2% disagreed to the statement implying there could be Saccos that have phone banking service but experience security and troubleshooting related problems. Secondly, 42.7% agreed while 27.2% disagreed to the statement that Saccos members are allowed to inquire their balances and mini-statements using the phone banking service.

More so, most respondents agreed (48.6%) that Sacco members had the option of making money transfers at the comfort of their phone while a further 44.7% agreed and 8.7% strongly agreed that the Sacco customers pay bills through a pay bill platform, implying that most Saccos members of deposit taking Saccos in Nairobi County enjoy phone banking services rolled out by their respective Saccos.

In summary, respondents' agreed (45.6%) and strongly agreed (7.8%) that generally phone banking service has an effect on financial performance of the Sacco. This is also indicated by the grand mean of responses: 3.46 rounded off to 4 which correspondents to agree on the Likert scale of measurement; implying that most respondents agreed that phone banking service has an effect on financial performance of the Sacco. This is supported by Mohamed (2013) who studied on how phone banking influenced financial performance of commercial banks in India and found that financial performance of commercial banks improved after the introduction of mobile banking.

Digitized communication and Sacco' financial performance

These are summarized responses on perceived influence of digitized financial communication service on financial performance of deposit taking Saccos in Nairobi County. The descriptive results were presented in table 2.

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Table 2: Descriptive statistics; Digitized financial communication service

Statement	5	4	3	2	1	Mean	Std. Dev
The Sacco has rolled a digitized financial communication service to improve customer service	8(7.8)	51(49.5)	10(9.7)	27(26.2)	7(6.8)	3.45	0.914
The Sacco has bulk messaging service ease communication to its customers	12(11.7)	50(48.5)	11(10.7)	20(19.4)	10(9.7)	3.53	0.923
The Sacco has Social media platforms used to reach a vast number of its digital savvy customers	9(8.7)	47(45.7)	15(14.6)	21(20.4)	11(10.7)	3.41	0.917
There is an automated voice communication service to aid answer banking inquiries	10(9.7)	49(47.6)	13(12.6)	19(18.4)	12(11.7)	3.47	0.921
Generally, digitized financial communication service has attracted and retain a huge customer base, thus boosted financial performance	14(13.6)	48(46.6)	14(13.6)	18(17.5)	9(8.7)	3.59	0.915
Valid list wise=103							
Grand mean 3.49							

From table 2, most respondents agreed (49.5%) and strongly agreed (7.8%) that the Sacco has rolled a digitized financial communication service to improve customer service; while 48.5% and 11.7% also agreed and strongly agreed respectively that the Sacco has bulk messaging service to ease communication with its customers

More so, 45.7% agreed and 8.7% agreed that the Sacco has social media platforms used to reach a vast number of its digital savvy customers, while 47.6% of respondents also agreed that there is an automated voice communication service to aid answer banking inquiries.

In summary, most respondents agreed (46.6%) and strongly agreed (13.6%) that generally, digitized financial communication service has attracted and retain a huge customer base, thus boosted financial performance. This is also shown by the grand mean; 3.49 rounded off to 4 which correspondents to agree on the Likert scale of measurement; implying that most respondents agreed that digitized financial communication service influence financial performance of deposit taking Saccos in Nairobi County.

The results were supported by Tiwari (2016) study on electronic service management in financial institutions which found that electronic communication plays an important role in e-commerce because it closes the e-commerce loop. However, in developing countries, the underdeveloped electronic communication methods are a serious impediment to the growth of e-commerce. In these countries, entrepreneurs and some customers with techno phobia woes fear digitized communication services due to security concerns especially where insecure financial transactions have been reported.

e-saving mobilization and Sacco' financial performance

These are summarized responses on perceived influence of electronic saving mobilization services on financial performance of deposit taking Saccos in Nairobi County. The descriptive results were presented in table 3.

Table 3: Electronic savings mobilization service							
Statement	5	4	3	2	1	Mean	Std. Dev
The Sacco has rolled out electronic savings service to its customers	8(7.8)	51(49.5)	10(9.7)	27(26.2)	7(6.8)	3.35	0.906
Most customers capitalize their dividends through an electronic saving platform	12(11.7)	50(48.4)	12(11.7)	18(17.5)	11(10.7)	3.54	0.922
Most customers boost their shares using the electronic savings platform	9(8.7)	47(45.6)	15(14.6)	20(19.4)	12(11.7)	3.44	0.926
Most customers reinvest their share earnings using their electronic savings platform	10(9.7)	48(46.6)	13(12.6)	19(18.4)	13(12.6)	3.46	0.925
Generally, electronic savings mobilization has really boosted Sacco's capital base, thus boosted Saccos's financial performance	13(12.6)	52(50.5)	11(10.7)	17(16.5)	10(9.7)	3.58	0.911
Valid list wise=103							
Grand mean =3.474							

Table 3 showed that 49.5% and 7.8% of respondents agreed and strongly agreed respectively that the Sacco has rolled out electronic savings service to its customers while a further 48.4% and 11.7% agreed and strongly agreed respectively that most customers capitalize their dividends through an electronic saving platform; thus, definitely boost Sacco savings.

More so, most respondents agreed (45.6%) that most customers boost their shares using the electronic savings platform, implying that most customers of deposit taking Saccos in Nairobi County have embraced the electronic savings platform to enhance their savings.

Further, 46.6% and 9.7% of respondents agreed and strongly agreed respectively that most customers reinvest their share earnings using their electronic savings platform; this is normally done by Saccos to attract and boost members' savings.

In summary, most respondents agreed (50.5%) and strongly agreed (12.6%) that generally, electronic savings mobilization has really boosted Sacco's capital base, thus boosted Saccos's financial performance. This is also shown by the grand mean; 3.474 rounded off to 4 which correspondents to agree on the Likert scale of measurement; implying that most respondents agreed that electronic savings mobilization boost Sacco's capital base which consequently boosted Saccos' financial performance.

The study results were supported by Sandale (2016) study on electronic savings through reinvestment of earnings in financial institutions in India which found that the emergence of electronic savings brought big changes in financial services delivery and led to more benefits to customers in terms of ease and cost of transactions. The study concluded that electronic savings changes enable financial institutions to attract investments that boost profitability, efficiency and continued growth; and also act as a competitive tool for the financial institutions to attract and maintain customers.

Online loaning service and Sacco' financial performance

These are summarized responses on perceived influence of Online loaning services on financial performance of deposit taking Saccos in Nairobi County. The descriptive results were presented in table 4.

Table 4: Online loaning service

Statement	5	4	3	2	1	Mean	Std.Dev
The Sacco has rolled a secure online loan application and processing platform	10(9.7)	49(47.7)	9(8.7)	26(25.2)	9(8.7)	3.46	0.916
The Sacco has an online system interface with credit reference bureaus	11(10.7)	51(49.5)	10(9.7)	20(19.4)	11(10.7)	3.49	0.905
The Saccos' online loaning system effectively appraises loan applicants and checks defaulters	13(12.6)	51(49.5)	11(10.7)	18(17.5)	10(9.7)	3.54	0.927
The Sacco's online processing system helps manage direct debits and standing orders	16(15.5)	55(53.4)	8(7.8)	16(15.5)	8(7.8)	3.58	0.932
Generally, adoption of the online loaning service has helped minimize manual loan processing costs and improved financial performance of the Sacco.	15(14.6)	52(50.4)	12(11.7)	17(16.5)	7(6.8)	3.50	0.941
Valid list wise=103							
Grand mean =3.51							

From table 4, most respondents agreed (47.7%) and strongly agreed (9.7%) that the Sacco has rolled a secure online loan application and processing platform, though 25.2% disagreed to the statement implying that some customers fear a perceived insecure online loan application because of possible personal data insecurity.

More so, 49.5% agreed that the Sacco has an online system interface with credit reference bureaus; while a further 49.5% agreed and strongly agreed respectively that the Saccos' online loaning system effectively appraises loan applicants and checks defaulters; thus, ensuring a secure online loan application system. This was also reinforced by 53.4% of respondents who agreed that Sacco's online processing system help manages direct debits and standing orders.

In summary, most respondents agreed (50.4%) and strongly agreed (14.6%) that generally, adoption of the online loaning service has helped minimize manual loan processing costs and improved financial performance of the Sacco.

The study results are supported by Mathuva (2016) study on FOSA products in Saccos in Kenya which found that while access to loans is a practical necessity in today's economic needs of SACCO members, it was a sad reality that many people do not realize the importance of credit until their access becomes limited and level of income of the Savings and Credit Cooperative Societies in Kenya depends heavily on the interests on loans given to members. The study recommended that though FOSA products contribute to financial performance of Saccos by providing diversified loan products, Saccos must introduce online loaning services so as to improve loan portfolio with a possibility of increasing returns.

Inferential statistics

Table 5: Correlations

		Phone banking service	Digitized financial Communication Service	Electronic Saving Mobilization	Online Loaning Service	Financial Performance
Phone banking service	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	103				
Digitized financial Communication Service	Pearson Correlation	.589**	1			
	Sig. (2-tailed)	.000				
	N	103	103			
Electronic Saving Mobilization	Pearson Correlation	.585**	.594**	1		
	Sig. (2-tailed)	.000	.000			
	N	103	103	103		
Online Loaning Service	Pearson Correlation	.566**	.580**	.590**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	103	103	103	103	
Financial Performance	Pearson Correlation	.710**	.729**	.734**	.712**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	103	103	103	103	103

**. Correlation is significant at the 0.01 level (2-tailed).

Multiple regression analysis

Multiple regressions analysis was done after compulsory assumptions of multiple regression analyses were checked and met. Multiple regressions results in table 6 showed an R square of 0.713, thus we inferred that the study model explains 71.3% of the variations in the financial performance of deposit taking Saccos in Nairobi county, while other factors not in this study model accounts for 28.7% of variations in the financial performance of deposit taking Saccos in Nairobi county, thus, it is a good study model.

Table 6: Multiple regression analysis

Model Summary

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	
1	.844[a]	.713	.701	.72116	.713	60.798	4	98	.000	

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	126.477	4	31.619	60.798	.000[a]
	Residual	50.967	98	.520		
	Total	177.445	102			

a. Predictors: (Constant), Online Loaning Service, Phone banking service, Digitized Financial Communication Service, Electronic Saving Mobilization

b. Dependent Variable: Financial Performance

Further, ANOVA results showed that the F-statistical value is significant (F=60.798, *significant* at *p<.001*), thus confirming the fitness of the analytical model. That is, from the study model, the significant F value inferred that the four study independent variables (phone banking service, digitized financial communication service, electronic saving mobilization service, online loaning service) are indeed different from each other and that they influence the dependent variable (financial performance of deposit taking Saccos in Nairobi county) in varied ways.

Lastly, from the values of unstandardized regression coefficients with standard errors in parenthesis, all the independent variables (phone banking service; β = 0.301 (0.145) at p<0.05; digitized financial communication service; β = 0.557 (0.239) at p<0.05; electronic saving mobilization; β = 0.648 (0.246) at p<0.05, online loaning service; β = 0.372 (0.146) at p<0.05; significantly influenced financial performance of deposit taking Saccos in Nairobi county (dependent variable).

Table 7: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.942	.367		2.565	.012
	Phone banking service	.301	.145	.286	2.070	.041
	Digitized financial Communication Service	.557	.239	.517	3.167	.002
	Electronic Saving Mobilization	.648	.246	.636	2.630	.010
	Online Loaning Service	.372	.146	.354	2.312	.023

a. Dependent Variable: Financial Performance

Therefore, the final multiple regression equation for overall significant multiple influence of the study's four independent variables (phone banking service, digitized financial communication service, electronic saving mobilization service, online loaning service on financial performance of deposit taking Saccos in Nairobi county (dependent variable) is;

(v) $y = 0.942 + 0.301X_1 + 0.557X_2 + 0.648X_3 + 0.372X_4$

Where;

y= financial performance of deposit taking Saccos in Nairobi county

X_1= phone banking service

X_2= Digitized financial Communication Service

X_3= Electronic Saving Mobilization service

X_4= Online Loaning Service

Testing of research hypotheses

The study tested four null hypotheses and the decision of accepting or rejecting each null hypothesis is explained as follows; The decision was to either accept the null hypothesis (H_o) if its corresponding unstandardized regression coefficient β = 0 and not significant at 5% (p>0.05) from the multiple regression results; or reject the null hypothesis ($H_{o)}$ and accept the alternative hypothesis (H_A) if its corresponding unstandardized regression coefficient β≠ 0 and significant at 5% (p<0.05); tested as follows;

Null Hypothesis one (H_{01}): Phone banking service does not significantly influence financial performance of deposit taking Saccos in Nairobi county. (Alternative Hypothesis one) H_{A1}: Phone banking service significantly influence financial performance of deposit taking Saccos in Nairobi County; β = 0.301 (0.145) *significant* at *p<0.05.* Verdict; we rejected the null hypothesis (H_{01}) and accept the alternative hypothesis (H_{A1}) that Phone banking service significantly influence financial

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performance of deposit taking Saccos in Nairobi county. The results implied that a single improvement in viable phone banking services will lead to 0.301 unit improvement in financial performance of deposit taking Saccos in Nairobi County.

The results are supported by Gakure (2013) who studied on the influence of phone banking on financial performance of commercial banks in Kenya using financial ratios and found that financial performance of commercial banks greatly improved.

Null Hypothesis two (H_{02}): Digitized financial communication service does not significantly influence financial performance of deposit taking Saccos in Nairobi county. (Alternative Hypothesis two; H_{A2}: Digitized financial communication service significantly influence financial performance of deposit taking Saccos in Nairobi County; $\beta = 0.557$ (0.239) *significant* at $p<0.05$. Verdict; we rejected the null hypothesis (H_{02}) and accept the alternative hypothesis (H_{A2}) that digitized financial communication service significantly influence financial performance of deposit taking Saccos in Nairobi county. The results implied that a single improvement in feasible digitized financial communication services will lead to 0.557 unit improvement in financial performance of deposit taking Saccos in Nairobi County.

The results are supported by Hintero (2016) study on electronic communication and financial performance of financial lending institutions in Indonesia which found that the convergence of interactive communications, computing and content coupled with customer demand for instant access to information enabled customer's access and monitor their financial transactions and any urgent communication with their financial service provider. However, the study did not show any significant relationship between electronic communication and financial performance, a gap that has been addressed by this study.

Null Hypothesis three (H_{03}): Electronic savings mobilization service does not significantly influence financial performance of deposit taking Saccos in Nairobi county. (Alternative Hypothesis three; H_{A3}: Electronic savings mobilization service significantly influence financial performance of deposit taking Saccos in Nairobi County; $\beta = 0.648$ (0.246) *significant* at $p<0.05$. Verdict; we rejected the null hypothesis (H_{03}) and accept the alternative hypothesis (H_{A3}) that electronic savings mobilization service significantly influence financial performance of deposit taking Saccos in Nairobi county. The results implied that a single improvement in feasible electronic savings mobilization services will lead to 0.648 unit improvement in financial performance of deposit taking Saccos in Nairobi County.

The results are supported by Sandale (2016) study on electronic savings through reinvestment of earnings in financial institutions in India which found that the emergence of electronic savings brought big changes in financial services delivery and led to more benefits to customers in terms of ease and cost of transactions.

Null Hypothesis four (H_{04}): Online loaning service does not significantly influence financial performance of deposit taking Saccos in Nairobi county. (Alternative Hypothesis four; H_{A4}: Online loaning service significantly influence financial performance of deposit taking Saccos in Nairobi County; $\beta = 0.372$ (0.146) *significant* at $p<0.05$. Verdict; we rejected the null hypothesis (H_{04}) and accept the alternative hypothesis (H_{A4}) that online loaning service significantly influence financial performance of deposit taking Saccos in Nairobi county. The results implied that a single improvement in viable online loaning services will lead to 0.372 unit improvement in financial performance of deposit taking Saccos in Nairobi County.

The results are supported by Miriti (2013) study which noted that financial performance of Saccos is influenced by interests on loans, repayment period and default management. That is, low interest

charges by cooperative society can be easily repaid by the members and introduction of online loan applications is geared towards improving affordability and but with utmost loan security meant to reduce loan default ratio.

CONCLUSIONS AND RECOMMENDATIONS

The study concluded that effective use of secure and upgraded phone banking system can reduce financial transaction costs and enhance financial performance of deposit taking Saccos. Secondly, efficient use of cost effective digitized financial communication services by Saccos can reduce manual communications costs and boost financial performance of deposit taking Saccos. Thirdly, introduction and effective use of electronic savings mobilization services can attract huge customer savings thus positively impact on financial performance of deposit taking Saccos. Fourthly, use of secure online loaning services can help Saccos fast track loan processing time, serve more loan applicants, reduce loan processing costs, thus, enhance financial performance of deposit taking Saccos.

The study recommended that, First, deposit taking Saccos must adopt secure, upgraded and efficient phone banking platforms to enable them serve many customers with reduced banking costs. Secondly, deposit taking Saccos should embrace secure digitized financial communication service using bulk messaging, controlled social media platforms, to enable them attract and respond to many customers concerns. Thirdly, deposit taking Saccos should embrace viable electronic savings mobilization services to attract a huge customer base and inculcate a savings culture among its customers so as to boost Saccos share capital. Lastly, deposit taking Saccos should roll out secure and upgraded online loaning services for easier access of loan products by its customers, while checking on loan default ratios that can arise from fraudulent online loan applicants.

Areas for further research

First, a similar study can be done using longitudinal design for a span of five years to assess the efficacy of electronic banking services in deposit taking Saccos. Secondly, another study can be done on electronic banking related fraud in all Saccos in Kenya so as to identify sources of electronic banking fraud.

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